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(56) Documents Cited

US 5129129 A US 4987662 A US 4731912 A

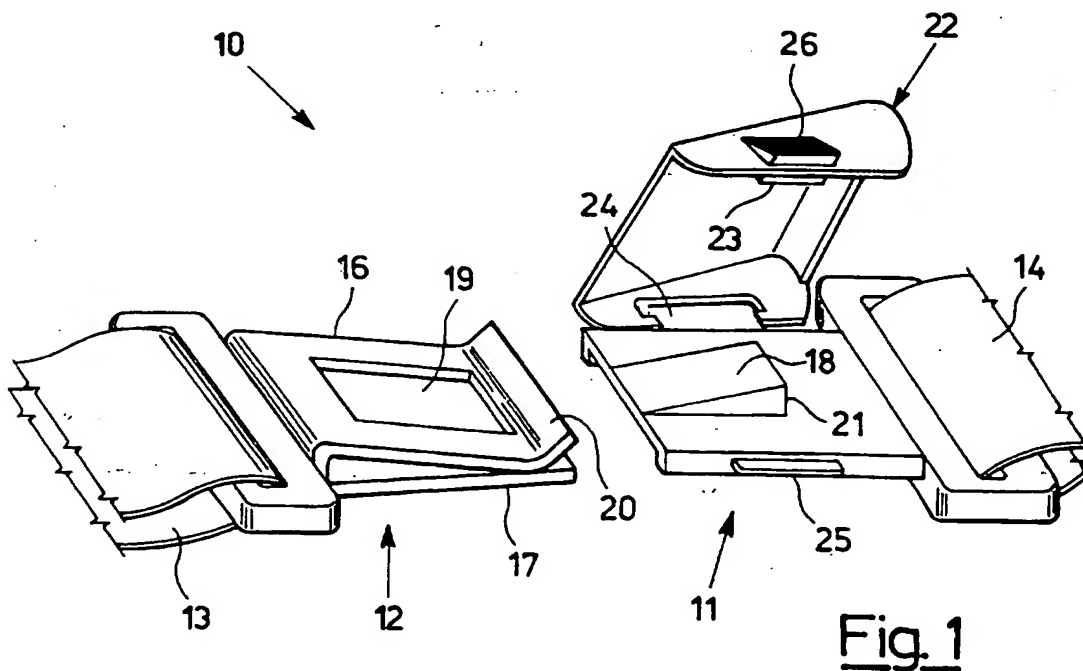
(58) Field of Search

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(54) SNAP BUCKLE WITH A PROTECTIVE COVER

(57) A belt buckle (10) comprises a male portion (11) and a female portion (12) to be mutually fitted by means of removable snap-fitting means (18, 19) having an operating element (20) for disengagement of same. One of the portions (11, 12) comprises a cover (22) hinged thereon to be movable between an open position enabling free access to the operating element (20) of the snap-fitting means, and a closed position in which access at least to the operating element (20) of the snap-fitting means is inhibited. Thus an unwanted disengagement of the buckle is prevented.



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SNAP BUCKLE WITH A PROTECTIVE COVER

The present invention relates to a belt buckle having a snap-fitting closure and provided with a protective cover which is resistant to unhooking.

On many occasions it may be necessary to have a belt capable of being opened and closed quickly, which on the other hand is not subjected to being inappropriately opened. For example, in the case of belts supplied to the police staff as anti-brawl equipment and intended to be used for hanging work equipment it is important that the buckle may not be opened during possible fights, either accidentally or if pulled by an ill-intentioned individual.

It is a general object of the present invention to provide a buckle which can be easily hooked and unhooked and which at the same time also offers a protection against unwanted unhookings.

In view of the above object, in accordance with the invention a belt buckle has been devised which comprises a male portion and a female portion to be fitted into each other by removable snap-fitting means provided with an operating element to perform the unhooking operation, wherein one of said portions comprises a cover hinged thereon so as to be movable between an open position enabling free access to the operating element of the snap-fitting means and a closed position in which access to at least the operating element of the snap-fitting means is inhibited.

An embodiment of the invention will now be described with reference to the accompanying drawings, in which:-

Fig. 1 is a diagrammatic exploded view in perspective of a buckle according to the invention;

Fig. 2 is a diagrammatic longitudinal sectional view of the buckle shown in Fig. 1 in an operating, that is hooked, condition.

Referring to the drawings, a buckle generally identified by reference numeral 10 is shown in Fig. 1 in an open condition.

The buckle 10 is comprised of a male portion 11 and a female portion 12 capable of being fitted into each other by removable snap-fitting means. Each portion comprises a loop for fastening a corresponding belt end 13, 14 thereto.

5 Advantageously, the buckle is obtained by plastics moulding, the plastic material being selected so that it has appropriate mechanical strength and flexibility properties.

10 The female portion 12 comprises two facing superposed arms 16, 17 that can be elastically moved away from each other. The male portion 11 generally made as a flat plate is adapted to be inserted head-on between the arms 16, 17 by elastic deflection of the arms themselves.

15 The male portion 11 comprises one tooth 18 tapering in the direction of its fitting into the female portion 12, which tooth is snap-received into a corresponding seat 19 provided in the upper arm 16 of the female portion, as clearly shown in Fig. 2. The arm 16 carrying the seat 19 has a gripping projection 20 at its free end, which is made to advantage as an end portion of the arm which is bent so as to be spaced

20 apart from the other arm. This bent portion 20 therefore embodies both an operating element for causing the manual deflection of the arm 16 in order to disengage the tooth from its seat, and a lead-in means facilitating the insertion of the male element 11 between the arms.

25 As clearly shown in Fig. 2, the male portion can be easily disengaged from the female portion by pushing the end 20 upwardly so that the arm 16 is deflected and the seat 19 is caused to ride over the abutment edge 21 of the tooth 18.

30 The male element 11 comprises a cover 22 laterally hinged thereon at 24 to be movable between an open position (shown in Fig. 1) in which free access to the operating element 20 is allowed, and a closed position (shown in Fig. 2) in which at least the operating element 20 is protected so that access thereto is inhibited.

35 As shown in the figures, the cover advantageously has such a shape that it completely covers the coupling arm 16 thereby offering a good aesthetic finish of the buckle when

in its hooked condition. Marks, coats of arms or the like can be also impressed in the cover.

5 In order to guarantee that the buckle cover is maintained in the closed position during use, said cover is provided with snap-locking means to lock it in the closed position. This locking means for instance comprises a relief projecting towards the inside from a cover wall opposite to the hinging wall, to be snap-engaged, when the cover is moved to its closed position, with a corresponding relief 25 projecting
10 sideways from the male element.

In this manner, the two reliefs are mutually snap-fitted bringing the cover to the closed position and can be disengaged by exerting a slight manual bending action on the cover wall from which the relief 23 projects. In order to
15 facilitate this disengagement movement, said wall is provided on its outer face with a grasping projection 26 capable of being easily gripped by a finger.

At this point it is apparent that the intended purposes have been achieved, since a buckle allowing easy hooking and
20 at the same time safeguarding against unwanted disengagements is provided.

Obviously, the above description of an embodiment applying the innovatory principles of the invention is given by way of example only and therefore must not be taken as a
25 limitation of the scope of the invention as herein claimed.

For example, the exact shape of the two buckle portions may vary depending on the particular practical requirements. In addition, the cover may be provided on the buckle female portion and not on the male portion. Likewise, the fitting
30 tooth may be located at the inside of the coupling arm 16 and the seat may be correspondingly placed on the male element.

CLAIMS

1. A belt buckle comprising a male portion and a female portion to be fitted into each other by removable snap-fitting means provided with an operating element for performing the unhooking operation, wherein one of said portions comprises a cover hinged thereon so as to be movable between an open position enabling free access to the operating element of the snap-fitting means and a closed position in which access to at least the operating element of the snap-fitting means is inhibited.
2. A buckle as claimed in claim 1, wherein the female portion comprises two facing superposed arms that can be elastically moved away from each other, the male portion being adapted to be inserted head-on between said arms by elastic deflection of the arms themselves to bring the snap-fitting means to the fitted condition, the snap-fitting means being disengaged by manually deflecting the arms away from each other.
3. A buckle as claimed in claim 2, wherein the male portion comprises one tooth tapering in the direction of its fitting into the female portion for being snap-received into a corresponding seat provided in one of the two arms of the female portion thereby constituting the snap-fitting means, the arm carrying the seat having a gripping projection constituting said operating element for the manual deflection of the arm in the appropriate direction so as to disengage the tooth from the seat.
4. A buckle as claimed in claim 1, 2 or 3, wherein the cover is laterally hinged on the male portion.
5. A buckle as claimed in any preceding claim, wherein the cover comprises snap-locking means for locking it in the closed position.
6. A buckle as claimed in claim 5, wherein the snap-locking means comprises one relief projecting from a cover wall to be snap-engaged, when the cover is moved to the closed position, with a corresponding relief provided in the portion on which the cover is hinged.

7. A buckle as claimed in claim 6, wherein the two reliefs can be disengaged from each other by manual deflection of the cover wall from which one of them projects.

8. A buckle as claimed in claim 7, wherein said wall
5 comprises one grasping projection enabling the wall to be manually deflected.

9. A belt buckle substantially as hereinbefore described with reference to the accompanying drawings.

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Patents Act 1977
Examiner's report to the Comptroller under Section 17
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Relevant Technical Fields

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 (ii) Int Cl (Ed.6) A44B 11/00, 11/25, 11/26

Search Examiner
 A ANGELE

Date of completion of Search
 12 DECEMBER 1995

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant following a search in respect of Claims :-
 ALL

(ii)

Categories of documents

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| <p>X: Document indicating lack of novelty or of inventive step.</p> <p>Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.</p> <p>A: Document indicating technological background and/or state of the art.</p> | <p>P: Document published on or after the declared priority date but before the filing date of the present application.</p> <p>E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.</p> <p>&: Member of the same patent family; corresponding document.</p> |
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Category	Identity of document and relevant passages	Relevant to claim(s)
X	US 5129129 A (COLLINS)	1 at least
X	US 4987662 A (HAFHEY)	1 at least
X	US 4731912 A (ASHLAR PRODS)	1 at least

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).